



Third West Weekly Report
Shepherd, Michael


1241171 - R8 SDMS

to:

Joyce Ackerman, 'Craig Barnitz (cbamitz@utah.gov)'

12/20/2011 02:58 PM

Hide Details

From: "Shepherd, Michael" <Michael.Shepherd@PacifiCorp.com>

To: Joyce Ackerman/R8/USEPA/US@EPA, "Craig Barnitz (cbamitz@utah.gov)"
<cbamitz@utah.gov>

7 Attachments



Weekly Reports 12-12 to 12-16.pdf Third West Weekly Log - 2011-50.pdf 225960-1.pdf 226040-1.pdf 226136-1.pdf



226206-1.pdf 226327-1.pdf

Joyce & Craig,

Attached are the reports for the week of December 12, 2011.

All air monitoring results came back negative, except there was a positive hit on Monday last week, it was chrysotile.

Please let me know if you have any questions.

Thanks,

Mike Shepherd
Project Manager
Rocky Mountain Power - Major Projects
801.220.4584 Office
801.631.1310 Cell
801.220.2797 Fax
michael.shepherd@pacificorp.com

3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

DATE: 12/12/11

General

- ☒ Work area Health and Safety Inspection
- NA Review and if necessary update Activity Hazard Analyses (AHA) based on planned site activities for the day
- NA Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
- NA Site hazard and safety instruction for all first time employees, contractors or visitors
- NA Complete Employee Meeting Record Form B (where applicable)
- NA Document required Respirator Training completion with Form H
- NA Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
- NA Confirm return of waste material manifest documents for each load with site manager.
- NA Complete all CSHASP Forms (for applicable activities planned for that day)
 - NA Illness/Injury Report Form A
 - NA Site-Specific Training Record Form C
 - NA Hot Work Permit Form D
 - NA Trench/Evacuation Permit Form E
 - NA Combined Space Entry Permit Form F
 - NA Exclusion zone operations are practiced as instructed.
 - NA Decontamination unit is working properly.
 - NA Workers are using decontamination unit as instructed.
 - NA Workers use personal protective equipment properly.
- ☒ Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
- NA Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
- ☒ Review sign-in/sign-out log throughout and at the end of the workday.
- ☒ Secure the site at the end of the workday

Sampling

- NA Soil Confirmation sampling for any newly excavated areas
- NA Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusions zone
- NA Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
- NA Digitally photograph each sample location and at any place field sampling personnel determined necessary

- NA Electronically file photo files into the on-site database
- ☒ Complete Field Documentation
 - ☒ Field Sample Data Sheets (FSDS)
 - ☒ Logbook
- NA On-site computer database
- ☒ Label each sample media with a unique number
- ☒ Seal sample(s) in zip lock plastic bags
- ☒ Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
- ☒ Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
- ☒ Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
- ☒ Electronically file sample reports into on-site database



3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station

Date: 12/12/11

Location: 3rd West, 1st South, SLC

Job Number: _____

Survey Conducted By: Justin Kargis

Title: _____

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	x			
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	x			

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.451 (a) (4)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			x	
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			x	

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			X	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	x			
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			x	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	x			
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.	x			
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Comments:

Newman excavated for switch gear building. Reached native soil on the west end of the dig and covered it with normal fill material. This excavation revealed existing cable trench and geo-grid barrier signaling the level of previous dig depth. Built a ramp over this site to encapsulate native soil.

CVE worked on forms for stem footings and switch gear building footing throughout the day.

3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

DATE: 12/13/11

General

- ☒ Work area Health and Safety Inspection
- NA Review and if necessary update Activity Hazard Analyses (AHA) based on planned site activities for the day
- NA Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
- NA Site hazard and safety instruction for all first time employees, contractors or visitors
- NA Complete Employee Meeting Record Form B (where applicable)
- NA Document required Respirator Training completion with Form H
- NA Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
- NA Confirm return of waste material manifest documents for each load with site manager.
- NA Complete all CSHASP Forms (for applicable activities planned for that day)
 - NA Illness/Injury Report Form A
 - NA Site-Specific Training Record Form C
 - NA Hot Work Permit Form D
 - NA Trench/Evacuation Permit Form E
 - NA Combined Space Entry Permit Form F
 - NA Exclusion zone operations are practiced as instructed.
 - NA Decontamination unit is working properly.
 - NA Workers are using decontamination unit as instructed.
 - NA Workers use personal protective equipment properly.
- ☒ Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
- NA Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
- ☒ Review sign-in/sign-out log throughout and at the end of the workday.
- ☒ Secure the site at the end of the workday

Sampling

- NA Soil Confirmation sampling for any newly excavated areas
- NA Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusions zone
- NA Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
- NA Digitally photograph each sample location and at any place field sampling personnel determined necessary

- NA Electronically file photo files into the on-site database
- ☒ Complete Field Documentation
 - ☒ Field Sample Data Sheets (FSDS)
 - ☒ Logbook
- NA On-site computer database
- ☒ Label each sample media with a unique number
- ☒ Seal sample(s) in zip lock plastic bags
- ☒ Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
- ☒ Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
- NA Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
- ☒ Electronically file sample reports into on-site database



3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station

Date: 12/13/11

Location: 3rd West, 1st South, SLC

Job Number: _____

Survey Conducted By: Justin Kargis

Title: _____

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	x			
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	x			

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.451 (a) (4)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			x	
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			x	

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			X	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	x			
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			x	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	x			
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.	x			
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Comments:

Newman backfilled and compacted around spread footings.

CVE continued work on forms for switch gear building.

Capitol Electric worked on battery bank in new control building.

3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

DATE: 12/14/11

General

- ☒ Work area Health and Safety Inspection
- NA Review and if necessary update Activity Hazard Analyses (AHA) based on planned site activities for the day
- NA Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
- NA Site hazard and safety instruction for all first time employees, contractors or visitors
- NA Complete Employee Meeting Record Form B (where applicable)
- NA Document required Respirator Training completion with Form H
- NA Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
- NA Confirm return of waste material manifest documents for each load with site manager.
- NA Complete all CSHASP Forms (for applicable activities planned for that day)
 - NA Illness/Injury Report Form A
 - NA Site-Specific Training Record Form C
 - NA Hot Work Permit Form D
 - NA Trench/Evacuation Permit Form E
 - NA Combined Space Entry Permit Form F
 - NA Exclusion zone operations are practiced as instructed.
 - NA Decontamination unit is working properly.
 - NA Workers are using decontamination unit as instructed.
 - NA Workers use personal protective equipment properly.
- ☒ Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
- NA Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
- ☒ Review sign-in/sign-out log throughout and at the end of the workday.
- ☒ Secure the site at the end of the workday

Sampling

- NA Soil Confirmation sampling for any newly excavated areas
- NA Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusions zone
- NA Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
- NA Digitally photograph each sample location and at any place field sampling personnel determined necessary

- NA Electronically file photo files into the on-site database
- ☒ Complete Field Documentation
 - ☒ Field Sample Data Sheets (FSDS)
 - ☒ Logbook
- NA On-site computer database
- ☒ Label each sample media with a unique number
- ☒ Seal sample(s) in zip lock plastic bags
- ☒ Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
- ☒ Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
- ☒ Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
- ☒ Electronically file sample reports into on-site database



3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station

Date: 12/14/11

Location: 3rd West, 1st South, SLC

Job Number: _____

Survey Conducted By: Justin Kargis

Title: _____

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	x			
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	x			

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.451 (a) (4)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			x	
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a 1/2 fire resistance barrier.			x	

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			X	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	x			
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			x	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	x			
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.	x			
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Comments:

CVE poured stem footings and footing for switchgear building at around 13:00.

Newman continued compacting and backfilling.

Excavation uncovered native soil on the west side for switchgear building. Newman encapsulated this with clean fill material.

3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

DATE: 12/15/11

General

- ☒ Work area Health and Safety Inspection
- NA Review and if necessary update Activity Hazard Analyses (AHA) based on planned site activities for the day
- NA Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
- NA Site hazard and safety instruction for all first time employees, contractors or visitors
- NA Complete Employee Meeting Record Form B (where applicable)
- NA Document required Respirator Training completion with Form H
- NA Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
- NA Confirm return of waste material manifest documents for each load with site manager.
- NA Complete all CSHASP Forms (for applicable activities planned for that day)
 - NA Illness/Injury Report Form A
 - NA Site-Specific Training Record Form C
 - NA Hot Work Permit Form D
 - NA Trench/Evacuation Permit Form E
 - NA Combined Space Entry Permit Form F
 - NA Exclusion zone operations are practiced as instructed.
 - NA Decontamination unit is working properly.
 - NA Workers are using decontamination unit as instructed.
 - NA Workers use personal protective equipment properly.
- ☒ Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
- NA Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
- ☒ Review sign-in/sign-out log throughout and at the end of the workday.
- ☒ Secure the site at the end of the workday

Sampling

- NA Soil Confirmation sampling for any newly excavated areas
- NA Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusions zone
- NA Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
- NA Digitally photograph each sample location and at any place field sampling personnel determined necessary

- NA Electronically file photo files into the on-site database
- ☒ Complete Field Documentation
 - ☒ Field Sample Data Sheets (FSDS)
 - ☒ Logbook
- NA On-site computer database
- ☒ Label each sample media with a unique number
- ☒ Seal sample(s) in zip lock plastic bags
- ☒ Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
- ☒ Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
- ☒ Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
- ☒ Electronically file sample reports into on-site database



3rd West Substation Site Project Safety Audit

Project: 3rd West Sub Station

Date: 12/15/11

Location: 3rd West, 1st South, SLC

Job Number: _____

Survey Conducted By: Justin Kargis

Title: _____

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.59	Hazard Communication Program, List of Chemicals, Training, MSDSs.			x	
1926.500 (b) & (d) (old standard)	Guardrails on open sided floors, floor holes and runways.			x	
1926.404 (b)	Ground fault circuit interrupters or an assured equipment grounding conductor program in use.	x			
1926.451 (b)	The employer shall instruct each employee in the recognition and avoidance of unsafe conditions.			x	
1926.451 (d)	Tubular welded scaffolds shall be properly braced so that they are plumb, square and rigid; legs on plumb, adjustable, mud sills, etc. to support the maximum load; guardrails and toe boards shall be installed.			x	
1926.100 (a)	Head protection, where there is a possible danger of head injury.	x			

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.652 (a) (1)	Excavation protective systems; examination by competent person when less than 5 feet in depth.			x	
1926.20 (b) (2)	Employer responsibility to initiate and maintain safety and health programs.	x			
1926.20 (b) (1)	Employer responsibility to provide for frequent and regular inspections by designated competent persons.			x	
1926.451 (e)	Manually propelled scaffolds shall have tight planking for the full width, platforms secured, ladder or stairway provided, suitable footing, stand plumbs, wheels locked, guardrails and toe boards.			x	
1926.1052 (c) (1)	Stair rail and handrail along each unprotected edge.			x	
1926.25 (a)	Debris, scrap lumber with protruding nails, not cleared for work areas, stairs and around structures.			x	
1926.50	First aid shall be available in the absence of an infirmary, or other that is reasonably accessible; first aid supplies shall be accessible and telephone numbers posted.			x	
1926.451 (a) (13)	Scaffolding safe access not provided by ladder or equivalent.			x	
1926.651 (k) (1)	Excavations, protective systems, inspected daily by a competent person and as needed.			x	
1926.403 (b) (2)	Employer shall ensure electrical equipment is free from recognized hazards, is suitable, used in accordance with the listing, labeling or certification.	x			

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.451 (a) (4)	Scaffolding shall have guardrails and toe boards when more than 10 feet high and when less than 45 inches of work space.			x	
1926.405 (g) (2)	Flexible cords shall be used without splice or tap; strain relief shall be provided.			x	
1926.405 (b)	Electrical boxes, fittings shall have covers, faceplates or canopy and holes shall be smooth where cords pass through; and unused openings in cabinets/boxes shall be closed.	x			
1926.701 (b)	Reinforcing steel onto which employees could fall shall be guarded.			x	
1926.1053 (b) (1)	Portable ladder side rails extend at least 3 feet or be secured at top.			x	
1926.651 (j) (2)	Excavations shall have materials or equipment placed at least 2 feet from the edge.			x	
1926.651 (c) (2)	Excavations shall have a safe means of egress such as ladders, ramps, etc.	x			
1926.150 (c) (1)	Portable fire fighting equipment shall be provided and extinguishers shall be inspected periodically.			x	
1926.102 (a) (1)	Eye and face protection shall be provided.	x			
1926.300 (b) (2)	Guards for power tools shall be used and moving parts of equipment shall be guarded.	x			
1926.350 (a) (9)	Oxygen cylinders in storage shall be separated from fuel gas cylinders by at least 20 feet or a ½ fire resistance barrier.			x	

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.405 (a) (2) (ii) (e) & (f)	Temporary lights shall be protected from breakage, not suspended by their cords and extension cord.			X	
1926.405 (a) (2) (ii) (j)	Extension cords used with portable electric tools shall be of three wire type and designed for hard or extra hard usage.	x			
1926.105 (a)	Workplaces more than 25 feet above the ground or water shall have safety nets when ladder, safety line/belts, temporary floors, scaffolds, catch platform are not practical.			x	
1926.1051 (a)	Stairway or ladder shall be provided at all access points where there is a break in elevation of 19 inches or more.	x			
1926.451 (a) (2)	Scaffolding footing or anchorage shall be sound, rigid and capable of carrying the maximum intended load.	x			
1926.500 (c) (1) (old standard)	Wall opening shall be guarded.			x	
1926.404 (f) (7)	Electrical equipment connected by cord and plug shall be grounded except if there is an isolating transformer or the tool is double insulated.	x			
1926.556 (b) (2)	When working from an aerial lift, a full body harness and lanyard attached to the boom or basket.			x	
1926.501 (b) (1) (new standard)	Guardrails, safety nets or personal fall arrest system shall be used at 6 feet or more.			x	

Standard	Title	In Compliance	Out of Compliance	N/A	Corrective Action Taken and Date
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
1926.451 (a) (14)	Scaffold planking shall extend over their end support not less than 6 inches and not more than 12 inches.	x			
1926.602 (a) (9)	Bi-directional earth moving equipment shall have audible alarms.	x			
1926.451 (a) (3)	Scaffolding shall be erected, moved, dismantled or altered under the supervision of a competent person.	x			
1926.550 (b) (2)	Cranes, crawler, truck or locomotive, shall meet the design, testing, maintenance, and operation per ANSI B30.5_1968. The most recent certification shall be on file until a new one is prepared.			x	

Comments:

Exclusion zone active as of 8:50. Newman suited up and began work. Water truck was frozen and took about an hour to thaw out hose fittings. Were not able to wet excavations but the soil was frozen so dust was minimized. Loaded, sealed, and washed one side dump load that exited the EZ around 11:00. This load contained concrete and contaminated material. Due to miscommunication with Clean Harbors, truck will not be able to dump concrete until Monday 12/19. Had to take an excavator into EZ through east gate around 13:15.

Around 15:15 Newman dug down to 7-8 feet along the far west wall of the yard in an effort to locate transmission cables. Couldn't find cables and immediately covered the hole with gravel.

CVE continued working on forming wall for switchgear building.

3RD WEST SUBSTATION REMEDIATION PROJECT

HEALTH SAFETY MANAGER (HSM)

DAILY CHECKLIST

DATE: 12/16/11

General

- ☒ Work area Health and Safety Inspection
- NA Review and if necessary update Activity Hazard Analyses (AHA) based on planned site activities for the day
- NA Safety Planning or "Tailgate" mandatory meeting for all employees and contractors prior to commencement of any site work. Instruction, review hazards, health & safety issues and any modifications to the CSHASP
- NA Site hazard and safety instruction for all first time employees, contractors or visitors
- NA Complete Employee Meeting Record Form B (where applicable)
- NA Document required Respirator Training completion with Form H
- NA Record times and numbers of dump trucks and trailers as they leave the site with contaminated material.
- NA Confirm return of waste material manifest documents for each load with site manager.
- NA Complete all CSHASP Forms (for applicable activities planned for that day)
 - NA Illness/Injury Report Form A
 - NA Site-Specific Training Record Form C
 - NA Hot Work Permit Form D
 - NA Trench/Evacuation Permit Form E
 - NA Combined Space Entry Permit Form F
- ☒ Exclusion zone operations are practiced as instructed.
 - ☒ Decontamination unit is working properly.
 - ☒ Workers are using decontamination unit as instructed.
 - ☒ Workers use personal protective equipment properly.
- ☒ Set air samples at cardinal compass points around exclusion zone. Check throughout the day to ensure proper operation.
- ☒ Observe control measures for dust and fugitive materials i.e. watering excavation sites and track out prevention.
- ☒ Review sign-in/sign-out log throughout and at the end of the workday.
- ☒ Secure the site at the end of the workday

Sampling

- NA Soil Confirmation sampling for any newly excavated areas
- ☒ Stationary Air Monitoring during contaminated soil removal around the perimeter of the exclusions zone
- NA Personal Breathing Zone Monitoring on personnel conducting contaminated dust and soil removal
- NA Digitally photograph each sample location and at any place field sampling personnel determined necessary
- ☒ Electronically file photo files into the on-site database

- ☒ Complete Field Documentation
- ☒ Field Sample Data Sheets (FSDS)
- ☒ Logbook
- NA On-site computer database
- ☒ Label each sample media with a unique number
- ☒ Seal sample(s) in zip lock plastic bags
- ☒ Complete and include Chain of Custody (COC) Form required for shipping of samples to appropriate laboratory
- ☒ Package samples for transport IAW SOP 2-1, Packaging and Shipping of Environmental Samples
- NA Review and disseminate sample results as received from the laboratories to Project Manager and other appropriate managers and employees
- NA Electronically file sample reports into on-site database



PHOTO 1

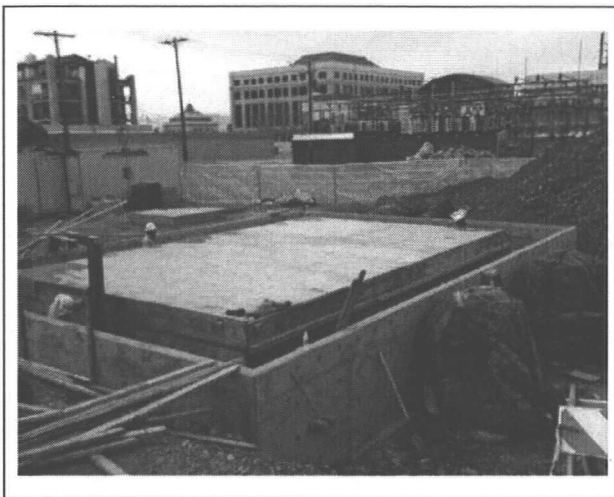


PHOTO 2

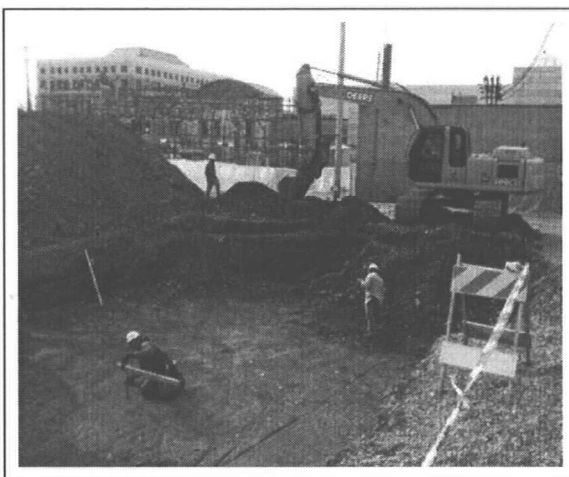


PHOTO 3

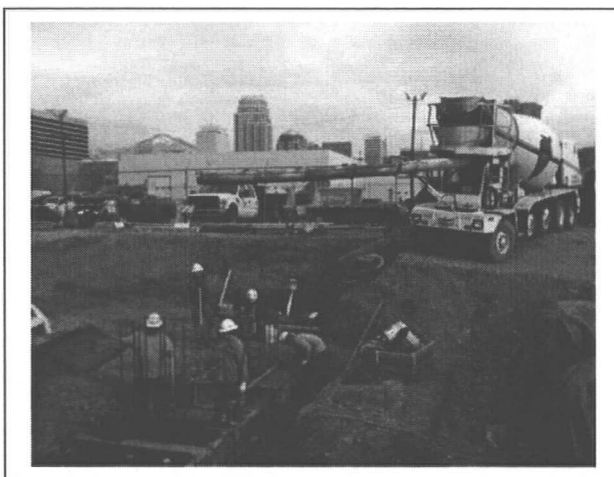


PHOTO 4

R & REnvironmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:
DCR

DRAWN BY:
JMK

DATE
12/12/2011

FILE:

SITE PHOTOGRAPHS



3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah



PHOTO 1



PHOTO 2

R & REnvironmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:
DCR

DRAWN BY:
JMK

DATE
12/13/2011

FILE:

SITE PHOTOGRAPHS



**3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah**



PHOTO 1

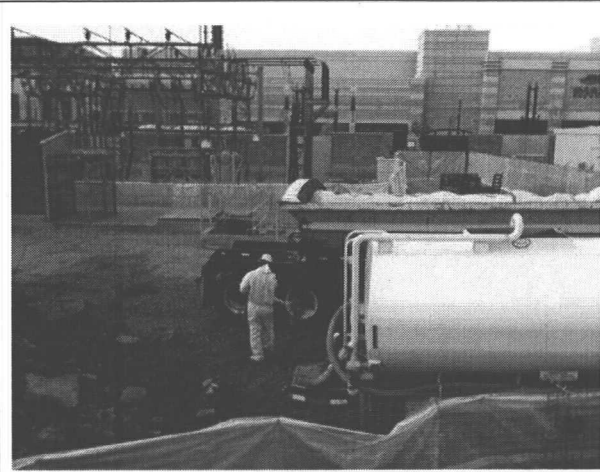


PHOTO 2

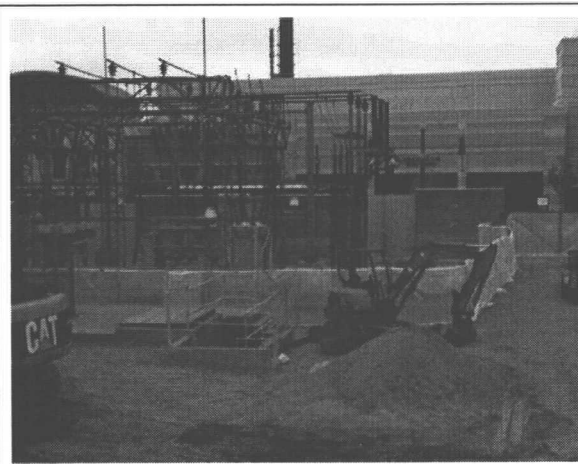


PHOTO 3

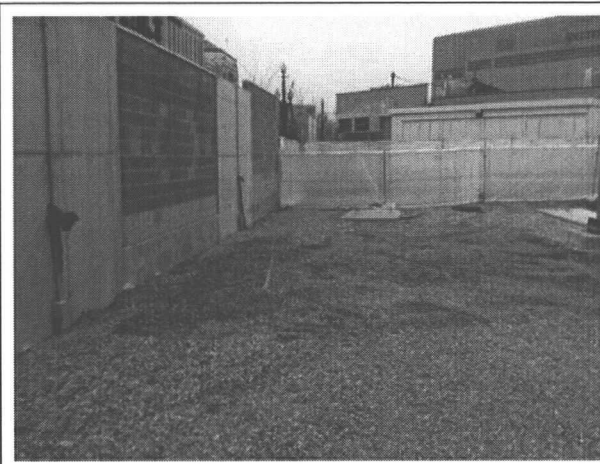


PHOTO 4

R & REnvironmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:
DCR

DRAWN BY:
JMK

DATE
12/15/2011

FILE:

SITE PHOTOGRAPHS



3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah



PHOTO 1



PHOTO 2



PHOTO 3

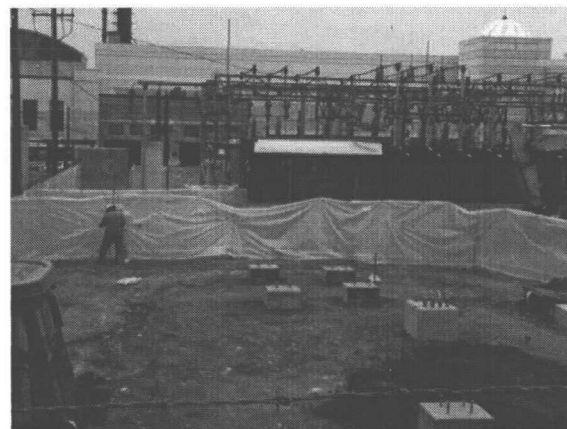


PHOTO 4

R & REnvironmental, Inc.

47 West 9000 South, Suite #2, Sandy, Utah 84070
(801) 352-2380 • Fax: (801) 352-2381

PROJECT NO:

DESIGNED BY:

SCALE:

REVIEWED BY:

DCR

DRAWN BY:

JMK

DATE:

12-16-11

FILE:

SITE PHOTOGRAPHS



**3rd West Substation
"2011 Upgrade Project"
Salt Lake City, Utah**

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild

DATE: Monday, December 12, 2011

PO & Work Order NO.: 3000078050 / 10035803

MAIN CONTRACTOR: Cache Valley Electric

Crew Start Time: 6:50

Crew Stop Time: 17:20

Tot Hrs mns: 10:30

FCR Start Time: 6:40

FCR Stop Time: 17:20

Tot Hrs mns: 10:40

Use military time format 00:00

WEATHER CONDITIONS: Sunny - 18 degrees in AM, 40 degrees in PM

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. CVE fab crew stripped the forms from the transformer pedestal. Poured the pads for the two NE "N" foundations and started forming up the footing for the switchgear foundation. Newman removed some wet material from the excavation for the "N" footings. PSI will be here at 10:00 to witness the proof roll of the switchgear excavation. Newman is hauling spoils to the staging site. Newman completed approximately 70 feet of the excavation for the switchgear, 70' of the total 101' necessary. PSI (Zach) came by and witnessed the proof roll of the excavation for the switchgear and gave a thumbs up. I met with Southwire and New River personnel, along with Alan Bezzant and walked through the work procedure for pulling out the old 46 kV UG cable from the substation, west to the tennination poles. It appears that New River will be cutting the cable in the vaults on 400 West and the cable will need to be pulled from there to the substation by CVE, or someone, when we can excavate in the energized area of the substation. Brent Wiggins confirmed that he wants sand placed between the bottom of the switchgear footing and the top of the NE "N" pad, a depth of approximately 3" and an overhang of approximately 6.5". CVE fab crew = 6, Newman = 4, R&R = 1, Wilding = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time: Manny LuHaun 0640

Dispatcher logout, name and time: Al Swinski 1720

DISCREPANCIES:

Last week we found two fdns in the old sub that were under the yard rock and not included in the details of concrete to be removed from the site
No resolution on the 20' ground rod issue.

Identified an additional retaining wall that is below grade and does not show on the Demo Plan.

IMMEDIATE CORRECTIVE ACTION TAKEN:

CVE to provide CO for removing the additional concrete.

CVE to provide per unit price to drill concrete.

Will excavate to determine dimensions.

DELAYS OR LOST TIME ENCOUNTERED:

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (2), forklift, 1 dumpster, office trailer, conex, exclusion zone conex (2), tool trailer, crew truck, boom truck (2). Newman: portable wash-down structure, trachoe (2), mini-ex, bobcat, power washer, water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:

Reported by:

Time:



Russ Johnson

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild

DATE: Tuesday, December 13, 2011

PO & Work Order NO. : 3000078050 / 10035803

MAIN CONTRACTOR: Cache Valley Electric

Crew Start Time: 6:55

Crew Stop Time: Tot Hrs mns: 17:05

FCR Start Time: 6:55

FCR Stop Time: Tot Hrs mns: 17:05

Use military time format 00:00

WEATHER CONDITIONS: Sunny - 25 degrees in AM, 35 degrees in PM

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. CVE fab crew formed, tied rebar, and set anchor bolts for the pedestals on the NE "N" foundations and set forms and tied rebar for the east two-thirds of the switchgear footing. Newman backfilled around the NE "N" pads with ABC and with sand under the switchgear footing, as approved by Brent Wiggins. They anticipate pouring the "N" pedestals and the switchgear footing on Wednesday at 1:00 PM. Capital Electric delivered the batteries, rack, charger and panel to the control building and have started assembling the battery rack. They anticipate finishing their work by Friday. Southwire/New River has pulled the Jordan Circuit from the vault on 400 West to the vault in 100 South and 500 West and has cut the Gadsby cable in the vault on 400 West. The Jordan conductor is pulled out on the street in 200' lengths and they are in the process of cutting it up into 20' lengths for salvage to Utah Metals. It appears that the cable from the termination pole to the first vault in 100 South is direct buried, at least there is no indication where the cable enters the ground at the base of the termination pole that it is in conduit. The same holds true for the terminations in the substation at 3rd West. CVE fab crew = 6, Newman = 4, R&R = 1, Wilding = 1, Capital Electric = 2, Southwire = 1, New River = 5.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time:	David Hurst 0655
Dispatcher logout, name and time:	Kim Batt 1720

DISCREPANCIES:

IMMEDIATE CORRECTIVE ACTION TAKEN:

Last week we found two fdns in the old sub that were under the yard rock and not included in the details of concrete to be removed from the site	CVE to provide CO for removing the additional concrete.
No resolution on the 20' ground rod issue.	CVE to provide per unit price to drill concrete.
Identified an additional retaining wall that is below grade and does not show on the Demo Plan.	Will excavate to determine dimensions.

DELAYS OR LOST TIME ENCOUNTERED:

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (2), forklift, 1 dumpster, office trailer, conex, exclusion zone conex (2), tool trailer, crew truck, boom truck (2). Newman: portable wash-down structure, trachoe (2), mini-ex, tobcat, power washer, water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:	Reported by:	Time:



Russ Johnson
Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild

DATE : Wednesday, December 14, 2011

PO & Work Order NO. : 3000078050 / 10035803

MAIN CONTRACTOR : Cache Valley Electric

Crew Start Time: 6:50

Crew Stop Time: 17:20

Tot Hrs mns: 10:30

FCR Start Time: 6:50

FCR Stop Time: 17:00

Tot Hrs mns: 10:10

Use military time format 00:00

WEATHER CONDITIONS: Overcast / Sunny - 26 degrees in AM, 40 degrees in PM

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. CVE Fab crew completed the forms/rebar/anchor bolt work for the two NE "N" spread footings and switchgear footings and poured the concrete at 1:00 PM. Newman backfilled along the north and east sides of the oil containment, around the north C & D footings and around the south C & D footings. Newman also did some prep work for relocating the EZ fence to accommodate the removal of concrete and dirt from the EZ on Thursday, December 15. Capital Electric continued assembly of the Communication battery rack and have been notified that they will not be able to work on Thursday and Friday because the new control building will be part of the EZ. They will return as soon as the control building is no longer part of the EZ. Southwire/New River pulled out the cable for the Gadsby circuit, cut it up and sent the salvaged cable to Utah Metals. They had a total of three dumpsters. CVE fab crew = 6, Newman = 3, R&R = 1, Wilding = 1, Capital Electric = 2, Southwire = 1, New River = 6.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time: Barry Nielson 0650

Dispatcher logout, name and time: No Logout

DISCREPANCIES:

IMMEDIATE CORRECTIVE ACTION TAKEN:

Last week we found two fons in the old sub that were under the yard rock and not included in the details of concrete to be removed from the site
No resolution on the 20' ground rod issue.

CVE to provide CO for removing the additional concrete.

CVE to provide per unit price to drill concrete.

Identified an additional retaining wall that is below grade and does not show on the Demo Plan.

Will excavate to determine dimensions.

Communications battery rack extends into the northeast doorway. Capital Electric indicates that they were told to proceed with the install by Barry Anderson

Sent email and pictures to Roger F to confirm that this conflict is acceptable to RMP.

DELAYS OR LOST TIME ENCOUNTERED:

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (2), forklift, 1 dumpster, office trailer, conex, exclusion zone conex (2), tool trailer, crew truck, boom truck (2). Newman: portable wash-down structure, trachoe (2), mini-ex, boticat, power washer, water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:

Reported by: _____ Time: _____



Russ Johnson
Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild

DATE : Thursday, December 15, 2011

PO & Work Order NO. : 3000078050 / 10035803

MAIN CONTRACTOR : Cache Valley Electric

Crew Start Time: 6:55

Crew Stop Time: 17:05

Tot Hrs mns: 10:10

FCR Start Time: 6:55

FCR Stop Time: 17:25

Tot Hrs mns: 10:30

Use military time format 00:00

WEATHER CONDITIONS: Overcast / Sunny - 26 degrees in AM, 35 degrees in PM

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. Newman is getting the EZ ready to start loading out concrete and dirt from the EZ. They have 2-3 trucks lined up and hope to get most of the broken up concrete out today. That idea didn't work so well as Newman didn't make connections with Clean Harbors for authorization to dump concrete so they loaded out one truck and are now on hold, waiting for notification from Clean Harbors. Newman excavated at centerline of the Jordan 46 kV bay, just inside the west wall to a depth of 8' and was not able to locate the existing 40 kV cable. We will try again next week and will need to resolve the elevation difference between the existing cables, and the shallower elevation specified for the new 138 kV bank. CVE fab crew stripped the "N" pedestals and the switchgear footings and is forming up the walls for the east one-third of the switchgear. Southwire/New River completed the removal of the Jordan and Gadsby circuits. They were unable to remove the cable from the vault in 400 West into the Third West Sub and from the vaults in the street on 100 south to the terminal poles. CVE fab crew = 5, Newman = 4, R&R = 1, Wilding = 1, Southwire = 1, New River = 5.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time: Kim Batt 0655

Dispatcher logout, name and time: Kim Batt 1725

DISCREPANCIES:

11/22 - We found two fdns in the old sub that were under the yard rock and not included in the details of concrete to be removed from the site
11/16 - No resolution on the 20' ground rod issue.

11/30 - Identified an additional retaining wall that is below grade and does not show on the Demo Plan.

12/14 - Communications battery rack extends into the northeast doorway. Capital Electric indicates that they were told to proceed with the install by Barry Anderson

12/15 - Excavated to locate the 46 kV cables exiting the west side of the yard. Dug 8' and didn't find them. Will try again. Actual depth will be much deeper than design of new bank

IMMEDIATE CORRECTIVE ACTION TAKEN:

CVE to provide CO for removing the additional concrete.

CVE to provide per unit price to drill concrete.

Will excavate to determine dimensions.

Sent email and pictures to Roger F to confirm that this conflict is acceptable to RMP.

Sent e-mail to Roger F.

DELAYS OR LOST TIME ENCOUNTERED:

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (2), forklift, 1 dumpster, office trailer, conex, exclusion zone conex (2), tool trailer, crew truck, boom truck (2). Newman: portable wash-down structure, trachoe (2), mini-ex, bobcat, power washer, water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:

Reported by:

Time:



Russ Johnson

Field Construction Representative

PACIFICORP OPERATIONS - Field Construction Representative Daily Log

PROJECT NAME: Third West Sub - Rebuild

DATE : Friday, December 16, 2011

PO & Work Order NO. : 3000078050 / 10035803

MAIN CONTRACTOR : Cache Valley Electric

Crew Start Time: 6:55

Crew Stop Time: 15:00

Tot Hrs mns: 8:05

FCR Start Time: 6:55

FCR Stop Time: 15:00

Tot Hrs mns: 8:05

Use military time format 00:00

WEATHER CONDITIONS: Overcast / Sunny - 20 degrees in AM, 35 degrees in PM

DESCRIPTION: (work performed, general comments, instructions to contractor, # of crew members onsite.)

R&R set up four monitors. Newman relocated the EZ fence from the conex to the south fence, east approximately 10' to facilitate excavating on both sides of the retaining wall that will need to be removed. They also placed some backfill in the area south of the conexes. CVE fab crew continued forming and tying rebar for the east section of the switchgear wall. They anticipate pouring this first section on Tuesday, December 20, AM. CVE fab crew = 5, Newman = 3, R&R = 1.

IF WORKING IN ENERGIZED SUBSTATION:

Dispatcher login, name and time: Gus Montanez 0655

Dispatcher logout, name and time: Gus Montanez 14:55

DISCREPANCIES:

IMMEDIATE CORRECTIVE ACTION TAKEN:

11/22 - We found two fdns in the old sub that were under the yard rock and not included in the details of concrete to be removed from the site

CVE to provide CO for removing the additional concrete.

11/16 - No resolution on the 20' ground rod issue.

CVE to provide per unit price to drill concrete.

11/30 - Identified an additional retaining wall that is below grade and does not show on the Demo Plan.

Will excavate to determine dimensions.

12/14 - Communications battery rack extends into the northeast doorway. Capital Electric indicates that they were told to proceed with the install by Barry Andersor

Sent email and pictures to Roger F to confirm that this conflict is acceptable to RMP. Under evaluation by Comm Group

12/15 - Excavated to locate the 46 kV cables exiting the west side of the yard. Dug 8' and didn't find them. Will try again. Actual depth will be much deeper than design of new bank

Sent e-mail to Roger F.

DELAYS OR LOST TIME ENCOUNTERED:

Discrepancies, cont'd: The J-bars for the switchgear walls were fabricated with the long leg being 4'-1, rather than the specified 4'-11". CVE is in the process of splicing extensions so that the rebar will run up to the proper height and distance from TOC.

EQUIPMENT (working, delivered, idle):

CVE fab crew: Portable toilet (2), forklift, 1 dumpster, office trailer, conex, exclusion zone conex (2), tool trailer, crew truck, boom truck (2). Newman: portable wash-down structure, trachoe (2), mini-ex, bobcat, power washer, water truck, compactor, backhoe.

OSHA Recordable Safety Incidents:

Reported by:

Time:



**ROCKY MOUNTAIN
POWER**

A DIVISION OF PACIFICORP

Russ Johnson

Field Construction Representative



December 14, 2011

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 225960-1
Project # / P.O. #: None Given
Project Description: 3rd West Sub - RMP

David Roskelley
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 225960-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeanne Spencer Orr", is written over a horizontal line.

Jeanne Spencer Orr
President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number: RES 225960-1
 Client: R & R Environmental
 Client Project Number / P.O.: None Given
 Client Project Description: 3rd West Sub - RMP
 Date Samples Received: December 13, 2011
 Analysis Type: TEM, AHERA
 Turnaround: 24 Hour
 Date Samples Analyzed: December 14, 2011

Client ID Number	Lab ID Number	Area Analyzed (mm ²)	Air Volume Sampled (L)	Number of Asbestos Structures Detected	Analytical Sensitivity (s/cc)	Asbestos Concentration (s/cc)	Filter Loading (s/mm ²)
3W-121211-E	EM 836583	0.0800	1005	ND	0.0048	BAS	BAS
3W-121211-S	EM 836584	0.0800	1009	ND	0.0048	BAS	BAS
3W-121211-N	EM 836585	0.0800	1008	1	0.0048	0.0048	12.5
3W-121211-W	EM 836586	0.0800	1007	ND	0.0048	BAS	BAS

NA = Not Analyzed
 ND = None Detected
 BAS = Below Analytical Sensitivity
 Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester
 Filter Diameter = 25 mm
 Effective Filter Area = 385 sq mm

gvr
 Digitally signed
 by Gina
 Ventrone
 Date:
 2011.12.14
 15:29:26 -0700

DATA QA

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE II. SUMMARY OF ANALYTICAL DATA

RES Job Number: RES 225960-1
 Client: R & R Environmental
 Client Project Number / P.O.: None Given
 Client Project Description: 3rd West Sub - RMP
 Date Samples Received: December 13; 2011
 Analysis Type: TEM, AHERA
 Turnaround: 24 Hour
 Date Samples Analyzed: December 14, 2011

Client ID Number	Lab ID Number	Asbestos Mineral	Asbestos Structure Types*				Structures >5 Microns in Length	**Excluded Structures	Asbestos Structures for Concentration
			Fibers	Bundles	Clusters	Matrices			
3W-121211-E	EM 836583	ND	0	0	0	0	0	0	0
3W-121211-S	EM 836584	ND	0	0	0	0	0	0	0
3W-121211-N	EM 836585	Chrysotile	0	0	0	1	0	0	1
3W-121211-W	EM 836586	ND	0	0	0	0	0	0	0

*See Analytical Procedure for definitions

**C = Excluded from total due to lack of confirmation

**L = Excluded from total for length less than 0.5 micron (AHERA only)

**A = Excluded from total due to incorrect aspect ratio

ND = None Detected

Due Date: 12/12/11
Due Time: 9:30

RES 225960

REILAB **Reservoirs Environmental, Inc.**
8801 Logan St. Denver, CO 80218 • P: 303 984-1886 • Fax: 303-477-4275 • Toll Free: 866-RESI-ENV
Pager: 303-509-2095

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: <u>REILAB Environmental</u>	Company:	Contact: <u>Dave Roskelley</u>	Contact:
Address:	Address:	Phone:	Phone:
		Fax:	Fax:
		Cell/pager:	Cell/pager:
Project Number and/or P.O. #:	Final Data Deliverable Email Address:		
Project Description/Location: <u>3rd West Sub - RAMP</u>	<u>dave@reilab.com</u>		

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm		REQUESTED ANALYSIS										VALID MATRIX CODES		LAB NOTES:	
PLM / PCM / TEM	<u> </u> RUSH (Same Day) <u> </u> PRIORITY (Next Day) <u> </u> STANDARD														
(Rush PCM = 2hr, TEM = 6hr.)															
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm															
Metals / Dust	<u> </u> RUSH <u> </u> 24 hr. <u> </u> 3-5 Day														
RCRA 8 / Metals & Welding Fume Scan / TCLP	<u> </u> RUSH <u> </u> 5 day <u> </u> 10 day														
Organics	<u> </u> 24 hr. <u> </u> 3 day <u> </u> 5 Day														
MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm															
E.coli O157:H7, Coliforms, S aureus	<u> </u> 24 hr. <u> </u> 2 Day <u> </u> 3-5 Day														
Salmonella, Listeria, E.coli, APC, Y & M	<u> </u> 48 Hr. <u> </u> 3-5 Day														
Mold	<u> </u> RUSH <u> </u> 24 Hr <u> </u> 48 Hr <u> </u> 3 Day <u> </u> 5 Day														
Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.															
Special Instructions:															
Client sample ID number (Sample ID's must be unique)															
1	<u>3W-121211 E</u>														
2	<u>3W-121211 S</u>														
3	<u>3W-121211 N</u>														
4	<u>3W-121211 W</u>														
5															
6															
7															
8															
9															
10															

Number of samples received: 4 (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing, client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: <u>[Signature]</u>	Date/Time: <u>12/12/11</u>	Sample Condition:	On Ice	Sealed	Intact
Laboratory Use Only		Temp. (F°)	Yes / No	Yes / No	Yes / No
Received By: <u>[Signature]</u>	Date/Time: <u>12/13/11</u>	Carrier: <u>[Signature]</u>			
Results:	Contact: <u>Dave</u>	Phone: <u>[Blank]</u>	Email: <u>[Blank]</u>	Fax: <u>[Blank]</u>	Date: <u>12/14/11</u>
	Contact: <u>[Blank]</u>	Phone: <u>[Blank]</u>	Email: <u>[Blank]</u>	Fax: <u>[Blank]</u>	Time: <u>3:55</u>
	Contact: <u>[Blank]</u>	Phone: <u>[Blank]</u>	Email: <u>[Blank]</u>	Fax: <u>[Blank]</u>	Initials: <u>[Blank]</u>

Handwritten: 7378 3457 7945
7-2011_version 1

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

A = Amosite
An = Anthophyllite
C = Chrysotile
Cr = Crocidolite
T = Tremolite

Structure Types

F = Fiber
B = Bundle
C = Cluster
M = Matrix

ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion

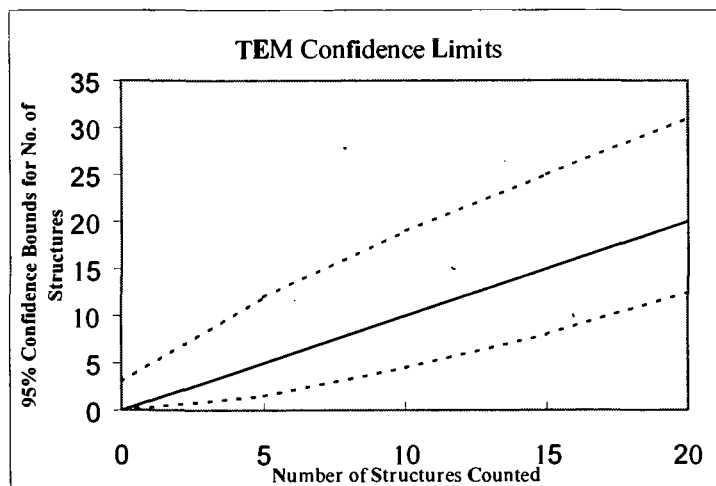
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr
Nathan DelHiero
Angela Heitger
Jonathan Bernard

Paul D. LoScalzo
Mark Steiner
Norberto Zimbleman
Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (1) S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R&H
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²):	1005
Date received by lab	12/13/11
Lab Job Number:	225900
Lab Sample Number:	836583

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JTB
Analysis date	12/14/11
Method (D=Direct, I=Indirect, IA=Indirect, aslled)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EOS
A	F6-1	ND												
	E6-1	ND												
	C6-1	ND												
	E6-3	ND												
B	G5-3	ND												
	F5-3	ND												
	E5-3	ND												
	C5-3	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX ^(N) S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 μ m
Scale: 1D =	0.056 μ m
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R+E
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²):	1009
Date received by lab	12/13/11
Lab Job Number:	2259100
Lab Sample Number:	836584

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	12/14/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	G4-1	ND												
	F4-1	ND												
	E4-1	ND												
	C4-1	ND												
B	H3-1	ND												
	G3-4	ND												
	G3-1	ND												
	F3-4	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

T404/001 INTERNAL USE ONLY - TEM Count Sheet

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	20KX 30KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²):	1008
Date received by lab	12/13/11
Lab Job Number	225960
Lab Sample Number:	836585

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JTB
Analysis date	12/14/11
Method (D=Direct, I=indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	K3-6	M		1	2	1	CD		✓					
	H3-6	ND												
	G3-6	ND												
	F3-6	ND												
B	G2-3	ND												
	F2-6	ND												
	F2-3	ND												
	E2-6	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

T:\2009\INTERVAL COUNTING

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX ^(N) S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 μ m
Scale: 1D =	0.056 μ m
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R&H
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²):	1007
Date received by lab	12/13/11
Lab Job Number:	225960
Lab Sample Number:	836586

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JTB
Analysis date	12/14/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	Ait
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H2-6	ND												
	G2-6	ND												
	F2-6	ND												
	E2-6	ND												
B	E3-6	ND												
	E3-3	ND												
	C3-6	ND												
	C3-3	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber:	is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
Bundle:	is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
Cluster:	is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
Matrix:	is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, mm}^2 = \# \text{ GO counted} \times \text{Average GO Area (mm)}$$

$$\text{Concentration, s/cc} = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2\text{)}}{\text{Average GO area (mm}^2\text{)}} \times \frac{1\text{L}}{1000\text{cc}}$$

$$\text{Filter loading, s/mm}^2 = \frac{\# \text{ Asbestos structures}}{\text{Area Analyzed (mm}^2\text{)}}$$

GO = TEM grid opening



Reservoirs Environmental, Inc.

December 15, 2011

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 226040-1
Project # / P.O. #: None Given
Project Description: 3rd West Sub - RMP

David Roskelley
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 226040-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

Jeanne Spencer Orr
President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number: RES 226040-1
 Client: R & R Environmental
 Client Project Number / P.O.: None Given
 Client Project Description: 3rd West Sub - RMP
 Date Samples Received: December 14, 2011
 Analysis Type: TEM, AHERA
 Turnaround: 24 Hour
 Date Samples Analyzed: December 15, 2011

Client ID Number	Lab ID Number	Area Analyzed (mm ²)	Air Volume Sampled (L)	Number of Asbestos Structures Detected	Analytical Sensitivity (s/cc)	Asbestos Concentration (s/cc)	Filter Loading (s/mm ²)
3W-121311-S	EM 837031	0.0800	1018	ND	0.0047	BAS	BAS
3W-121311-E	EM 837032	0.0800	1007	ND	0.0048	BAS	BAS
3W-121311-W	EM 837033	0.0800	1014	ND	0.0047	BAS	BAS
3W-121311-N	EM 837034	0.0800	1016	ND	0.0047	BAS	BAS

NA = Not Analyzed
 ND = None Detected
 BAS = Below Analytical Sensitivity
 Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester
 Filter Diameter = 25 mm
 Effective Filter Area = 385 sq mm

☐ Sampled against
 the filter
 Location:
 On: C-10 = 1000
 Location: C =
 US: D =
 Location:
 Date: 12/15/11
 11:30:45 AM

DATA QA

Due Date: 12.15.11
Due Time: 945

REILAS Reservoirs Environmental, Inc.
5801 Logan St. Denver, CO 80216 • Ph: 303 964-1886 • Fax 303-477-4275 • Toll Free :566 RESI-ENV
Pager : 303-509-2a96

RES 226040

INVOICE TC: (IF DIFFERENT)

CONTACT INFORMATION:

Company: <u>RER Environmental</u>	Company:	Contact: <u>Dave Reskalley</u>	Contact:
Address: <u>47 W. 9800 S.</u>	Address:	Phone: <u>801 541-1035</u>	Phone:
<u>Sandy Ut. 84070</u>		Fax:	Fax:
		Cell/pager:	Cell/pager:
Project Number and/or P.O. #:	Final Data Deliverable Email Address: <u>dave@reilass.com</u>		
Project Description/Location: <u>3rd West Sub - RMP</u>			

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm		REQUESTED ANALYSIS										VALID MATRIX CODES		LAB NOTES:
PLM / PCM / TEM	<u>RUSH (Same Day)</u> <u>X</u> <u>PRIORITY (Next Day)</u> <u>STANDARD</u> (Rush PCM = 2hr, TEM = 6hr.)	PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vec, ISO-indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s) RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	Salmonella: +/- E.coli O157:H7: +/- Listeria: +/- Aerobic Plate Count: +/- or Quantification E.coli: +/- or Quantification Coliforms: +/- or Quantification S.aureus: +/- or Quantification Y & M: +/- or Quantification Mold: +/- Identification, Quantification	SAMPLER'S INITIALS OR OTHER NOTES	Alr = A	Bulk = B			
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm										Dust = D	Paint = P			
Metal(s) / Dust	<u>RUSH</u> 24 hr. 3-5 Day									Soil = S	Wipe = W			
RCRA S / Metals & Welding	<u>RUSH</u> 6 day 10 day									Swab = SW	F = Food			
Fume Scan / TCLP										Drinking Water = DW	Waste Water = WW			
Organics	24 hr. 3 day 5 Day			O = Other										
MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm										**ASTM E1792 approved wipe media only**				
E.coli O157:H7, Coliforms, S.aureus	24 hr. 2 Day 3-5 Day									Sample Volume (L) / Area	Date Collected m/d/yyyy	Time Collected h:mm a/p	EM Number (Laboratory Use Only)	
Salmonella, Listeria, E.coli, APC, Y & M	48 Hr. 3-5 Day									Matrix Code				
Mold	<u>RUSH</u> 24 Hr 48 Hr 3 Day 5 Day									# Containers				
Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for short hours, weekends and holidays.														
Special Instructions:														
Client sample ID number (Sample ID's must be unique)														
1	3W-121311S		X							1018	A	12/13/11	837031	
2	3W-121311E		X							1007			32	
3	3W-121311W		X							1014			33	
4	3W-121311N		X							1016			34	
5														
6														
7														
8														
9														
10														

Number of samples received: 4 (Additional samples shall be listed on attached long form.)

NOTE: RER will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: <u>Jay's</u>	Date/Time: <u>12/13/11</u>	Sample Condition: <u>On Ice</u>	Sealed: <u>Yes</u>	Intact: <u>Yes</u>
Laboratory Use Only		Temp. (F°): <u>745</u>	Yes / No	Yes / No
Received By: <u>Chun</u>	Date/Time: <u>12.14.11</u>	Carrier: <u>FedEx</u>		
Results:	Contact: <u>Dave</u> Phone: <u>801 541-1035</u> Email: <u>dave@reilass.com</u> Fax: <u></u> Date: <u>12/14/11</u> Time: <u>940am</u> Initials: <u>DP</u>	Contact: <u></u> Phone: <u></u> Email: <u></u> Fax: <u></u> Date: <u></u> Time: <u></u> Initials: <u></u>	Contact: <u></u> Phone: <u></u> Email: <u></u> Fax: <u></u> Date: <u></u> Time: <u></u> Initials: <u></u>	Contact: <u></u> Phone: <u></u> Email: <u></u> Fax: <u></u> Date: <u></u> Time: <u></u> Initials: <u></u>

7978 4014 4330



December 16, 2011

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 226136-1
Project # / P.O. #: None Given
Project Description: 3rd West Sub RMP

Eldon Romney
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 226136-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeanne Spencer Orr", is written over a horizontal line.

Jeanne Spencer Orr
President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101898-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number: RES 226136-1
 Client: R & R Environmental
 Client Project Number / P.O.: None Given
 Client Project Description: 3rd West Sub RMP
 Date Samples Received: December 15, 2011
 Analysis Type: TEM, AHERA
 Turnaround: 24 Hour
 Date Samples Analyzed: December 16, 2011

Client ID Number	Lab ID Number	Area Analyzed	Air Volume Sampled	Number of Asbestos Structures Detected	Analytical Sensitivity	Asbestos Concentration	Filter Loading
		(mm ²)	(L)		(s/cc)	(s/cc)	(s/mm ²)
3W-121411 E	EM 837675	0.0800	999	ND	0.0048	BAS	BAS
3W-121411 S	EM 837676	0.1000	192	ND	0.0201	BAS	BAS
3W-121411 W	EM 837677	0.0800	995	ND	0.0048	BAS	BAS
3W-121411 N	EM 837678	0.0800	995	ND	0.0048	BAS	BAS

NA = Not Analyzed
 ND = None Detected
 BAS = Below Analytical Sensitivity
 Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester
 Filter Diameter = .25 mm
 Effective Filter Area = 385 sq mm

ll
 Digitally signed by
 Elaine E. Egan
 DN: CN = Elaine
 E. Egan, C = US,
 O = Reservoirs
 Environmental,
 Inc.
 Date: 2011.12.16
 11:50:52 -0700

DATA QA

Due Date: 12-15-11
 Due Time: 9:30am



Reservoirs Environmental, Inc.

6801 Logan St. Denver, CO 80216 • Ph: 303-964-1966 • Fax 303-477-4276 • Toll Free: 866-RES-ENV

Pager: 303-809-2098

Page 1 of 1

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: <u>RE Environmental</u>	Company: <u>Dave Roskelley</u>	Contact: <u>Dave Roskelley</u>
Address: <u>47 W. 9000 E</u>	Address:	Phone:
		Fax:
		Cell pager: <u>801 541-1035</u>
		Cell phone:
Project Number and/or P.O. #:	Final Date Deliverable Email Address: <u>dave@reenviro.com</u>	
Project Description/Location: <u>3rd West Sub RMP</u>		

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm		REQUESTED ANALYSIS										VALID MATRIX CODES		LAB NOTES:
PLM / PCM / TEM <u> </u> RUSH (Same Day) <u>X</u> PRIORITY (Next Day) <u> </u> STANDARD												Air = A Bulk = B		
(Rush PCM = 2hr, TEM = 6hr.)												Dust = D Paint = P		
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm												Soil = S Wipe = W		
Metal(s) / Dust <u> </u> RUSH <u> </u> 24 hr. <u> </u> 3-5 Day												Swab = SW F = Food		
RCRA 8 / Metals & Welding <u> </u> RUSH <u> </u> 5 day <u> </u> 10 day												Drinking Water = DW Waste Water = WW		
Fume Scan / TCLP* <u> </u> RUSH <u> </u> 5 day <u> </u> 10 day												O = Other		
Organics <u> </u> 24 hr. <u> </u> 3 day <u> </u> 5 Day												**ASTM E1792 approved wipe media only**		
MICROBIOLOGY LABORATORY HOURS: Weekdays: 9am - 6pm														
E.coli O157:H7, Coliforms, S.aureus <u> </u> 24 hr. <u> </u> 2 Day <u> </u> 3-5 Day														
Salmonella, Listeria, E.coli, APC, Y & M <u> </u> 48 Hr. <u> </u> 3-5 Day														
Mold <u> </u> RUSH <u> </u> 24 Hr <u> </u> 48 Hr <u> </u> 3 Day <u> </u> 5 Day														
Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional test apply for afterhours, weekends and holidays.														
Special Instructions:														
Client sample ID number (Sample ID's must be unique)														
1 <u>3W-1244U E</u>												Sample Volume (L) / Area		EM Number (Laboratory Use Only)
2 <u>3W-1244U S</u>												Matrix Code		
3 <u>3W-1244U W</u>												# Containers		
4 <u>3W-1244U N</u>												Date Collected mm/dd/yyyy		
5												Time Collected h:mm:ap		
6														
7														
8														
9														
10														

Number of samples received: 4 (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: <u>Justin Kyrin FedEx</u>		Date/Time: <u>12/14/11</u>		Sample Condition: On Ice Sealed Intact	
Laboratory Use Only				Temp. (F°) <u> </u> Yes / No Yes / No Yes / No	
Received By: <u>[Signature]</u>		Date/Time: <u>12/15/11 @ 9:30am</u> Carrier: <u>FedEx</u>			
Results:	Contact	Phone	Email	Fax	Date
	Contact	Phone	Email	Fax	Date

Handwritten: 7-2011 version 1

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

A = Amosite
An = Anthophyllite
C = Chrysotile
Cr = Crocidolite
T = Tremolite

Structure Types

F = Fiber
B = Bundle
C = Cluster
M = Matrix

ND = no structures detected

M = other structure associated with a matrix

NAM = Non Asbestos Mineral

XGB = partly obscured by a grid bar

Sizing Conversion

1 length unit = 5 mm on screen = 0.278 micron

1.80 length units = 0.5 micron

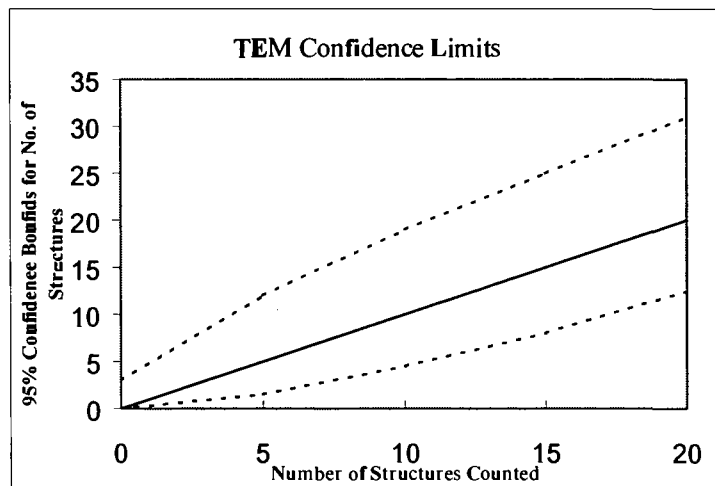
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr
Nathan DelHierro
Angela Heitger
Jonathan Bernard

Paul D. LoScalzo
Mark Steiner
Norberto Zimbleman
Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 10 =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	n/a
QA Type	Not QA

Client:	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	999
Date received by lab	12/15/11
Lab Job Number	226136
Lab Sample Number	837675

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Vetume Applied to secondary filter (ml)	

Analyzed by	W/JSB
Analysis date	12/15/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting mles (ISO, AHERA, ASTM)	AT
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EOS
A	E6-4	ND												
	C6-4	ND					Prep A 807 - intact ~57 debris							
	C4-6	ND					Prep B 807 - intact ~57 debris							
	B4-6	ND					Additional 60 / 12/16/11							
B	E4-6	ND												
	C4-6	ND												
	B4-6	ND												
	E2-6	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

T:\QAQC\Lab\ITEM\Lab Docs\ITEM Count Sheet rev. 1-11.xls

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.055 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	n/a
QA Type	Not QA

Client:	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	192
Date received by lab	12/15/11
Lab Job Number:	226136
Lab Sample Number:	837676

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	W
Analysis date	12/15/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EOS
A	G3-6	ND												
	F3-6	ND					Prep A 90% intact - 5% debris							
	E3-6	ND					Prep B - A for phase 12/15/11							
	C3-6	ND												
	B3-6	ND												
B	F3-6	ND												
	E3-6	ND												
	C3-6	ND												
	B3-6	ND												
	C2-6	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibols

C = Chrysotile

NAM = Non-asbestos material

T:\QA\GLab\TEM\Lab Docs\TEM Count Sheet rev.1-11.xls

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 μ m
Scale: 1D =	0.056 μ m
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	RAK
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	995
Date received by lab	12/15/11
Lab Job Number:	2261316
Lab Sample Number:	837677

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JTB
Analysis date	12/16/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H4-3	ND												
	G4-3	ND												
	F4-3	ND					Pip A	60% in bucket			Shade box			
	E4-3	ND					Pip B	70% in bucket			Shade box			
B	G3-1	ND												
	F3-1	ND												
	E3-1	ND												
	C3-1	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	ReR
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	995
Date received by lab	12/15/11
Lab Job Number:	226136
Lab Sample Number:	837678

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JBS
Analysis date	12/16/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	G4-4	ND												
	G4-1	ND					Prep A	60% in bulk		5% debris				
	F4-4	ND					Prep B	80% in bulk		5% debris				
	F4-1	ND												
B	K4-1	ND												
	H4-1	ND												
	G4-1	ND												
	F4-1	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber:	is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
Bundle:	is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
Cluster:	is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
Matrix:	is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, mm}^2 = \# \text{ GO counted} \times \text{Average GO Area (mm)}$$

$$\text{Concentration, s/cc} = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2\text{)}}{\text{Average GO area (mm}^2\text{)}} \times \frac{1\text{L}}{1000\text{cc}}$$

$$\text{Filter loading, s/mm}^2 = \frac{\# \text{ Asbestos structures}}{\text{Area Analyzed (mm}^2\text{)}}$$

GO = TEM grid opening



December 16, 2011

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 226206-1
Project # / P.O. #: None Given
Project Description: 3rd West Sub RMP

David Roskelley
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 226206-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeanne Orr", is written over a horizontal line.

Jeanne Spencer Orr
President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number: RES 226206-1
 Client: R & R Environmental
 Client Project Number / P.O.: None Given
 Client Project Description: 3rd West Sub RMP
 Date Samples Received: December 16, 2011
 Analysis Type: TEM, AHERA
 Turnaround: 24 Hour
 Date Samples Analyzed: December 16, 2011

Client ID Number	Lab ID Number	Area Analyzed (mm ²)	Air Volume Sampled (L)	Number of Asbestos Structures Detected	Analytical Sensitivity (s/cc)	Asbestos Concentration (s/cc)	Filter Loading (s/mm ²)
3W-121511 S	EM 838187	0.0800	992	ND	0.0049	BAS	BAS
3W-121511 W	EM 838188	0.0800	992	ND	0.0049	BAS	BAS
3W-121511 N	EM 838189	0.0800	992	ND	0.0049	BAS	BAS
3W-121511 E	EM 838190	0.0800	992	ND	0.0049	BAS	BAS

NA = Not Analyzed
 ND = None Detected
 BAS = Below Analytical Sensitivity
 Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester
 Filter Diameter = 25 mm
 Effective Filter Area = 385 sq mm

Digitally
 signed by
 Gina
 Valbruno
 Date:
 2011.12.16
 13:53:49 -
 0700

DATA QA

Due Date: 12-17-11
Due Time: 1015



Reservoirs Environmental, Inc.

8601 Logan St. Denver, CO 80218 • Ph: 303 884-1988 • Fax 303-177-4275 • Toll Free 866-REI-ENV
Pager: 303-509-2098

RES 226206

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: R&K Environmental	Company:	Contact: Dave Roskelley	Contact:
Address:	Address:	Phone:	Phone:
		Fax:	Fax:
		Cell/pager: 801 541-1035	Cell/pager:
Project Number and/or P.O. #:		Final Data Deliverable Email Address:	
Project Description/Location: 3rd West Sub RMD		dave@rrenviro.com	

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm		REQUESTED ANALYSIS										VALID MATRIX CODES		LAB NOTES:						
PLM / PCM / TEM <u>RUSH</u> (Same Day) <u>X</u> PRIORITY (Next Day) <u>STANDARD</u> (Rush PCM = 2hr, TEM = 6hr.)		PLM - Short report, Long report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analytes(s)	RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	Salmonella +/-	E. coli O157:H7 +/-	Listeria +/-	Aerobic Plate Count +/- or Quantification	E. coli +/- or Quantification	Coliforms +/- or Quantification	S. aureus +/- or Quantification	Y & M +/- or Quantification	Mold +/-, Identification, Quantification	Air = A	Bulk = B	J-22611
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm																		Dust = D	Paint = P	
Metal(s) / Dust <u>RUSH</u> 24 hr. 3-5 Day																		Soil = S	Wipe = W	
RCRA 8 / Metals & Welding Fume Scan / TCLP <u>RUSH</u> 6 day 10 day																		Swab = SW	F = Food	
Organics <u>24 hr.</u> 3 day 5 Day																		Drinking Water = DW	Waste Water = WW	
MICROBIOLOGY LABORATORY HOURS: Weekdays: 8am - 6pm												O = Other								
E. coli O157:H7, Coliforms, S. aureus <u>24 hr.</u> 2 Day 3-5 Day												**ASTM E1782 approved wipo media only**								
Salmonella, Listeria, E. coli, APC, Y & M <u>48 Hr.</u> 3-5 Day												Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected mm/dd/yy	Time Collected hh:mm:ap	EM Number (Laboratory Use Only)			
Mold <u>RUSH</u> 24 Hr 48 Hr 3 Day 5 Day																				
Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.																				
Special Instructions:																				
Client sample ID number (Sample ID's must be unique)																				
1	3W-12511 S	X															992 A	12/15/11	838187	
2	3W-12511 W																992		85	
3	3W-12511 N																992		87	
4	3W-12511 E																992		90	
5																				
6																				
7																				
8																				
9																				
10																				

Number of samples received: 4 (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Client of Custody shall constitute an analytical services agreement with payment terms of NET 30 days. Failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: [Signature]	Date/Time: 12/15/11	Sample Condition: On Ice Sealed Intact
Laboratory Use Only		Temp. (F°) Yes / No Yes / No (Yes) / No
Received By: [Signature]	Date/Time: 12-16-11 1015	Carrier: FedEx
Results:	Contact: Dave	Phone Email Fax
	Date: 12-16 Time: 1:40	Initials: [Signature]
	Contact: [Signature]	Phone Email Fax
	Date: 12-16 Time: 1:53	Initials: [Signature]

7930 2088 7333

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

A = Amosite
An = Anthophyllite
C = Chrysotile
Cr = Crocidolite
T = Tremolite

Structure Types

F = Fiber
B = Bundle
C = Cluster
M = Matrix

ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion

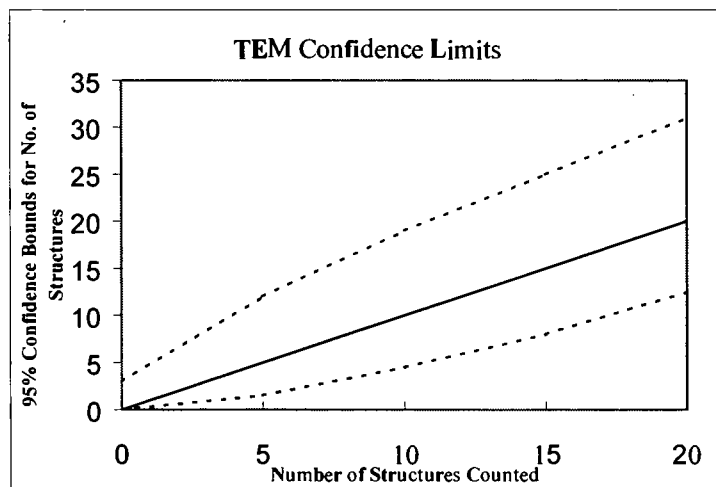
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr
Nathan DelHiero
Angela Heitger
Jonathan Bernard

Paul D. LoScalzo
Mark Steiner
Norberto Zimbleman
Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX <u>NS</u>
Voltage (KV)	100 KV
Magnification	<u>20KX</u> 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	Res R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	992
Date received by lab	12-16-11
Lab Job Number:	226206
Lab Sample Number:	838187

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JTB
Analysis date	12-16-11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	G15-4	ND												
	F5-4	ND					Prep A	70% intact		5% debris				
	E5-4	ND					Prep B	70% intact		5% debris				
	C5-4	ND												
B	L4-3	ND												
	K4-3	ND												
	H4-3	ND												
	G14-3	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX (N) S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client :	Re R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	992
Date received by lab	12-16-11
Lab Job Number	226206
Lab Sample Number	838188

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	12-16-11
Method (O=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	L5-1	ND												
	K5-1	ND					Rep A	60% infant		5% debris				
	H5-1	ND					Rep B	70% infant		5% debris				
	G5-1	ND												
B	K3-1	ND												
	H3-1	ND												
	G3-1	ND												
	F3-1	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

T:\QAQC\Lab\TEM\Lab Docs\TEM Count Sheet rev.1-11.xls

Reservoirs Environmental, inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX N S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client:	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	992
Date received by lab	12-16-11
Lab Job Number:	226206
Lab Sample Number:	838189

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	AM
Analysis date	12-16-11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting mles (ISO, AHERA, ASTM)	AM
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	K3-3	ND												
	H3-6	ND												
	H3-3	ND												
	G3-6	ND												
B	F5-4	ND												
	F5-1	ND												
	E5-4	ND												
	E5-1	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

T:\QAQC\Lab\TEM\Lab Docs\TEM Count Sheet rev.1-11.xls

Reservoirs Environmental, inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instaument	JEOL 100 CX N ^o S
Voltage (KV)	100 KV
Magnification	(20KX) 10KX
Grid opening area (mm ²)	0.01
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client :	R+R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	992
Date received by lab	12-16-11
Lab Job Number:	226206
Lab Sample Number:	838190

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	AH
Analysis date	12-16-11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting mles (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	B2-4	ND												
	B3-4	ND												
	A3-4	ND												
	C5-4	ND												
B	G3-1	ND												
	F3-1	ND												
	E3-1	ND												
	C3-1	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

T:\QAQC\Lab\TEM\Lab Docs\TEM Count Sheet rev. 1-11.xls

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber:	is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
Bundle:	is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
Cluster:	is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
Matrix:	is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, mm}^2 = \# \text{ GO counted} \times \text{Average GO Area (mm}^2\text{)}$$

$$\text{Concentration, s/cc} = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2\text{)}}{\text{Average GO area (mm}^2\text{)}} \times \frac{1\text{L}}{1000\text{cc}}$$

$$\text{Filter loading, s/mm}^2 = \frac{\# \text{ Asbestos structures}}{\text{Area Analyzed (mm}^2\text{)}}$$

GO = TEM grid opening



December 20, 2011

Laboratory Code: RES
Subcontract Number: NA
Laboratory Report: RES 226327-1
Project # / P.O. #: None Given
Project Description: 3rd West Sub - RMP

David Roskelley
R & R Environmental
47 West 9000 South #2
Sandy UT 84070

Dear Customer,

Reservoirs Environmental, Inc. is an analytical laboratory accredited for the analysis of Industrial Hygiene and Environmental matrices by the National Voluntary Laboratory Accreditation Program (NVLAP), Lab Code 101896-0 for Transmission Electron Microscopy (TEM) and Polarized Light Microscopy (PLM) analysis and the American Industrial Hygiene Association (AIHA), Lab ID 101533 - Accreditation Certificate #480 for Phase Contrast Microscopy (PCM) analysis. This laboratory is currently proficient in both Proficiency Testing and PAT programs respectively.

Reservoirs Environmental, Inc. has analyzed the following samples for asbestos content as per your request. The analysis has been completed in general accordance with the appropriate methodology as stated in the attached analysis table. The results have been submitted to your office.

RES 226327-1 is the job number assigned to this study. This report is considered highly confidential and the sole property of the customer. Reservoirs Environmental, Inc. will not discuss any part of this study with personnel other than those of the client. The results described in this report only apply to the samples analyzed. This report must not be used to claim endorsement of products or analytical results by NVLAP or any agency of the U.S. Government. This report shall not be reproduced except in full, without written approval from Reservoirs Environmental, Inc. Samples will be disposed of after sixty days unless longer storage is requested. If you have any questions about this report, please feel free to call 303-964-1986.

Sincerely,

A handwritten signature in black ink, appearing to read "Jeanne Spencer Orr", is written over a horizontal line.

Jeanne Spencer Orr
President

RESERVOIRS ENVIRONMENTAL, INC.

NVLAP Lab Code 101896-0; TDH: #30-0015

TABLE I. TEM AIR FILTER SAMPLE DATA AND ANALYTICAL RESULTS

RES Job Number: RES 226327-1
 Client: R & R Environmental
 Client Project Number / P.O.: None Given
 Client Project Description: 3rd West Sub - RMP
 Date Samples Received: December 19, 2011
 Analysis Type: TEM, AHERA
 Turnaround: 24 Hour
 Date Samples Analyzed: December 20, 2011

Client ID Number	Lab ID Number	Area Analyzed (mm ²)	Air Volume Sampled (L)	Number of Asbestos Structures Detected	Analytical Sensitivity (s/cc)	Asbestos Concentration (s/cc)	Filter Loading (s/mm ²)
3W-121611-E	EM 839002	0.1000	718	ND	0.0054	BAS	BAS
3W-121611-S	EM 839003	0.1000	718	ND	0.0054	BAS	BAS
3W-121611-N	EM 839004	0.1000	716	ND	0.0054	BAS	BAS
3W-121611-W	EM 839005	0.1000	716	ND	0.0054	BAS	BAS

NA = Not Analyzed
 ND = None Detected
 BAS = Below Analytical Sensitivity
 Average Grid Opening in mm² = 0.010

Filter Material = Mixed Cellulose Ester
 Filter Diameter = 25 mm
 Effective Filter Area = 385 sq mm

DATA QA

Due Date: 12/22/11
Due Time: 8:30am

RES 226327

REILAS Reservoirs Environmental, Inc.
5901 Logan St. Denver, CO 80215 • Ph: 303 964-1986 • Fax 303-477-4275 • Toll Free 866-RESI-ENV
Pager: 303-569-2088

Page 1 of 1

INVOICE TO: (IF DIFFERENT)

CONTACT INFORMATION:

Company: RSR Environmental	Company:	Contact: Dave Rockelley	Contact:
Address: 47 W 8800 S	Address:	Phone:	Phone:
Sandy, UT. 84670		Fax:	Fax:
		Cell/pager: 801 541-1035	Cell/pager:
Project Number and/or P.O. #:		Final Date Deliverable Email Address:	
Project Description/Location: 3rd West Sub - RMP		dave@rsrenviro.com	

ASBESTOS LABORATORY HOURS: Weekdays: 7am - 7pm		REQUESTED ANALYSIS										VALID MATRIX CODES		LAB NOTES:									
PLM / PCM / TEM <input type="checkbox"/> RUSH (Same Day) <input checked="" type="checkbox"/> PRIORITY (Next Day) <input type="checkbox"/> STANDARD (Rush: PCM = 2hr, TEM = 6hr.)		PLM - Short report, Point Count	TEM - AHERA, Level II, 7402, ISO, +/-, Quant, Semi-quant, Micro-vac, ISO-Indirect Preps	PCM - 7400A, 7400B, OSHA	DUST - Total, Respirable	METALS - Analyte(s)	RCRA 8, TCLP, Welding Fume, Metals Scan	ORGANICS - METH	Salmonella +/-	E.coli O157:H7 +/-	Listeria +/-	Aerobic Plate Count +/- or Quantification	E.coli +/- or Quantification	Coliforms +/- or Quantification	S.aureus +/- or Quantification	Y & M +/- or Quantification	Mold +/- Identification, Quantification	SAMPLES INITIALS OR OTHER NOTES	Alr = A	Bulk = B			
CHEMISTRY LABORATORY HOURS: Weekdays: 8am - 5pm																			Oust = D	Paint = P			
Metal(s) / Dust <input type="checkbox"/> RUSH <input type="checkbox"/> 24 hr. <input type="checkbox"/> 3-5 Day																			Soil = S	Wipe = W			
RCRA 8 / Metals S Welding Fume Scan / TCLP <input type="checkbox"/> RUSH <input type="checkbox"/> 5 day <input type="checkbox"/> 10 day																			Swab = SW	F = Food			
Organics <input type="checkbox"/> 24 hr. <input type="checkbox"/> 3 day <input type="checkbox"/> 5 Day																			Drinking Water = DW	Waste Water = WW			
MICROBIOLOGY LABORATORY HOURS: Weekdays: 8am - 6pm																		O = Other					
E.coli O157:H7, Coliforms, S.aureus <input type="checkbox"/> 24 hr. <input type="checkbox"/> 2 Day <input type="checkbox"/> 3-5 Day																		**ASTM E1792 approved wipe media only**					
Salmonella, Listeria, E.coli, APC, Y & M <input type="checkbox"/> 48 Hr. <input type="checkbox"/> 3-5 Day																		Sample Volume (L) / Area	Matrix Code	# Containers	Date Collected m/d/yyyy	Time Collected n/mm o/p	EM Number (Laboratory Use Only)
Mold <input type="checkbox"/> RUSH <input type="checkbox"/> 24 Hr <input type="checkbox"/> 48 Hr <input type="checkbox"/> 3 Day <input type="checkbox"/> 5 Day																							
Turnaround times establish a laboratory priority, subject to laboratory volume and are not guaranteed. Additional fees apply for afterhours, weekends and holidays.																							
Special Instructions:																							
Client sample ID number (Sample ID's must be unique)																							
1	3W-121611-E																				833002		
2	3W-121611-S																				83		
3	3W-121611-N																				84		
4	3W-121611-W																				85		
5																							
6																							
7																							
8																							
9																							
10																							

Number of samples received: 4 (Additional samples shall be listed on attached long form.)

NOTE: REI will analyze incoming samples based upon information received and will not be responsible for errors or omissions in calculations resulting from the inaccuracy of original data. By signing client/company representative agrees that submission of the following samples for requested analysis as indicated on this Chain of Custody shall constitute an analytical services agreement with payment terms of NET 30 days, failure to comply with payment terms may result in a 1.5% monthly interest surcharge.

Relinquished By: [Signature]	Date/Time: 12/16/11	Sample Condition: On Ice Sealed Intact
Laboratory Use Only		Temp. (F) Yes / No Yea / No Yes / No
Received By: [Signature]	Date/Time: 12/20/11 9:35am Carrier: [Signature]	
Results:	Contact [Signature] Phone Email Fax	Date [Signature] Time [Signature] Initials [Signature]
	Contact [Signature] Phone Email Fax	Date [Signature] Time [Signature] Initials [Signature]

Analysis # 7932 2508 247
7-2011_version 1

Attachment I

Key to Count Sheets
Count Sheets
Analytical Procedures

Structures identifications consist of an Asbestos Type followed by a Structure Type

Asbestos Type

A = Amosite
An = Anthophyllite
C = Chrysotile
Cr = Crocidolite
T = Tremolite

Structure Types

F = Fiber
B = Bundle
C = Cluster
M = Matrix

ND = no structures detected
M = other structure associated with a matrix
NAM = Non Asbestos Mineral
XGB = partly obscured by a grid bar

Sizing Conversion

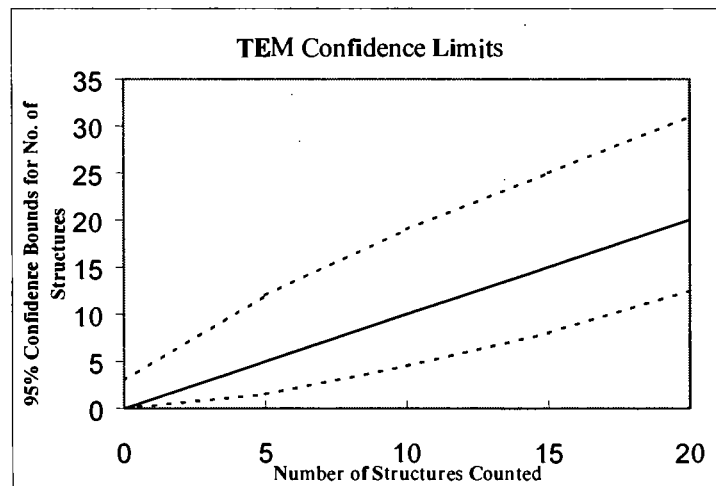
1 length unit = 5 mm on screen = 0.278 micron
1.80 length units = 0.5 micron
18.0 length units = 5 microns

1 width unit = 1 mm on screen = 0.0556 micron

TEM Analysts

Jeanne S. Orr
Nathan DelHierro
Angela Heitger
Jonathan Bernard

Paul D. LoScalzo
Mark Steiner
Norberto Zimbleman
Robert Workman



Upper and lower 95% confidence bounds for the number of structures counted assuming a Poisson distribution.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX/N S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client :	ReR
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	718
Date received by lab	12/19/11
Lab Job Numtier:	226327
Lab Sample Number:	829002

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JB
Analysis date	12/20/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	F2-6	ND												
	E2-6	ND												
	C2-6	ND												
	B2-6	ND												
	B4-3	ND												
B	G4-6	ND												
	F4-6	ND												
	E4-6	ND												
	C4-6	ND												
	E4-1	ND												
Preps A+B ~70% ambient B-5% debris AB 12/20/11														

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Laboratory name:	REI
Instrument	JEOL 100 CX/N-S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grkl opening area (mm2)	0.011
Scale: 1L =	0.28 μ m
Scale: 1D =	0.056 μ m
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm2)	715
Date received by lab	12/19/11
Lab Job Number:	226327
Lab Sample Number:	821003

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Analyzed by	JTB
Analysis date	12/20/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AIH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

[illegible]

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Fuller, R. A., & J. A. J. (1998). The effects of the 1997 Asian financial crisis on the U.S. economy. *Journal of International Money and Finance*, 17, 1-15.

Reservoirs Environmental, Inc.
TEM Asbestos Structure Count

Laboratory name:	REI
Instrument	JEOL 100 CX/N/S
Voltage (KV)	100 KV
Magnification	20KX 10KX
Grid opening area (mm ²)	0.011
Scale: 1L =	0.28 um
Scale: 1D =	0.056 um
Primary filter area (mm ²)	385
Secondary Filter Area (mm ²)	
QA Type	

Client :	Rak
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	Flu
Date received by lab	12/19/11
Lab Job Number	201327
Lab Sample Number	221004

Analyzed by	JB
Analysis date	12/20/11
Method (D=Direct, I=Indirect, IA=Indirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	AIH
Grid storage location	Month Analyzed
Scope Alignment	Date Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

Grid	Grid Opening	Structure Type	No. of Structures		Dimensions		Identification	Mineral Class			Sketch/Comments	1 = yes, blank = no		
			Primary	Total	Length	Width		Amphibole	C	NAM		Sketch	Photo	EDS
A	H4-1	ND												
	G4-1	ND					Pump A	70% in tent		5% debris				
	F4-1	ND					Pump B	50% in tent		5% debris				
	E4-1	ND												
	C4-1	ND												
B	H4-6	ND												
	H4-3	ND												
	G4-6	ND												
	F4-3	ND												
	E4-3	ND												
	ND	ND												

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Laboratory name:	REI
Instrument	JEOL 100 CX/N S
Voltage (KV)	100 KV
Magnification	2000X 10KX
Grid opening area (mm2)	0.011
Scale: 1L =	0.28 μ m
Scale: 1D =	0.056 μ m
Primary filter area (mm2)	385
Secondary Filter Area (mm2)	
QA Type	

Client :	R&R
Sample Type (A=Air, D=Dust):	A
Air volume (L) or dust area (cm ²)	716
Date received by lab	12/19/18
Lab Job Number	221327
Lab Sample Number	831009

Analyzed by	SB
Analysis date	12/20/11
Method (D=Direct, I=Indirect, IA=(ndirect, ashed)	D
Counting rules (ISO, AHERA, ASTM)	All
Grkl storage location	Month Analyzed
Scope Alignment	Data Analyzed

F-Factor Calculation (Indirect Preps Only):

Fraction of primary filter used	
Total Resuspension Volume (ml)	
Volume Applied to secondary filter (ml)	

[illegible]

LA = Libby-type amphibole

OA = Other (non-Libby type) amphibole

C = Chrysotile

NAM = Non-asbestos material

Tell Workshop In: Q400 Ltd, Q414: 121-5

Analytical Procedures – AHERA

Transmission electron microscopy/energy dispersive X-ray spectrometry/selected area electron diffraction (TEM/EDX/SAED) was employed in the analysis of the samples, which were collected on 25 mm mixed cellulose ester air filters. A portion of each filter was collapsed with acetone and etched in a plasma asher. The etched filter was then coated with a thin layer of carbon in a carbon side down. The sample was then placed inside a condensation washer and treated with acetone to remove the filter matrix and expose any inert material.

For each sample, enough grid openings on a 200 mesh TEM grid are analyzed to ensure an analytical sensitivity of at least 0.005 structures/cc. A minimum of four grid openings from two preparations are analyzed for each sample. The grid openings are searched for fibrous structures which, if present are analyzed by SAED and/or EDX (elemental analysis). The AHERA protocol requires SAED confirmation of enough chrysotile asbestos structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures). Both SAED and EDX confirmation are required of enough amphibole structures on each sample to cause the sample to exceed 70 structures/mm² (usually 4 or 5 structures) per sample. Either SAED or EDX is required for the remaining asbestos structures of either type. The morphology of each structure is determined and the length and the diameter of any asbestos structures are recorded. Asbestos fibers, bundles, cluster and matrices were identified and recorded. The asbestos structures have been defined in AHERA as follows:

Fiber:	is a structure having a minimum length greater than or equal to 0.5 micron with an aspect ratio of 5:1 or greater with substantially parallel sides.
Bundle:	is a structure composed of three or more fibers in parallel arrangement, with each fiber closer than the diameter of one fiber.
Cluster:	is a structure with fibers in random arrangements such that all fibers are intermixed and no single fiber is isolated from the group.
Matrix:	is a fiber or fibers with one end free and the other end embedded or hidden by a particulate. The exposed fiber end must meet the fiber definition given above.

If more than 50 asbestos structures are identified and confirmed on a sample, AHERA analysis may be terminated after completion of the grid opening, which contains the 50th structure. AHERA protocol requires the laboratory to reject any clearance sample which contains in excess of 25% total particulate loading or which appears to be unevenly loaded.

The AHERA protocol includes specific sampling requirements, including minimum numbers of samples and minimum air volumes. Specifically, the 70 structures/mm² clearance criteria is only allowed for sets five inside samples (collected in a group of 13 samples including: five outsides and three blanks) with volumes greater than 1200 liters (40 CFR Part 763, page 41894). Deviation from the AHERA sampling protocol may affect the validity of the analytical results. Analysis of samples collected by non-protocol methods are not accredited by NVLAP

Equations Used for Calculations

$$\text{Area Analyzed, mm}^2 = \# \text{ GO counted} \times \text{Average GO Area (mm)}$$

$$\text{Concentration, s/cc} = \frac{\# \text{ Asbestos Structures}}{\# \text{ GO Counted}} \times \frac{1}{\text{Volume (L)}} \times \frac{\text{Eff. Filter Area (mm}^2\text{)}}{\text{Average GO area (mm}^2\text{)}} \times \frac{\text{IL}}{1000\text{cc}}$$

$$\text{Filter loading, s/mm}^2 = \frac{\# \text{ Asbestos structures}}{\text{Area Analyzed (mm}^2\text{)}}$$

GO = TEM grid opening